

Smart Specialisation in Oulu Region

Suvi Orenius, Mikko Väisänen



The strategy process

- The region's smart specialisation strategy process for 2014–2017 began in 2012 with an update of the sub-regions' industry strategies
- Strategy process was fully initiated as a part of regional programme work in the spring of 2013
- The interactive process included stakeholders from companies, business development organisations, research institutes, educational institutions, municipalities, social partners, public sector authorities as well as individuals



Focus areas

- Oulu region's smart specialisation strategy has 4 focus areas:
 1. **ICT and software sector** including deeper integration with businesses in different fields
 2. **Basic industry's value chains:** mining and metal industries, refinement of timber raw material
 3. **Clean technologies** including energy
 4. **Healthcare and wellness technology**



Metal industry

- The Bothnian Arc is the core region of the Scandinavian steel industry and three of the Oulu region's sub-regions host about 380 SMEs in the metal industry. The steel and metal industry are estimated to employ 9000 people directly and around 20 000 indirectly.
- Key assets: applied material research and special steels (bring forward benefits such as light weight, strength, durability and energy savings and lower carbon dioxide emissions)
- Challenges: Make use of the potential of exploiting new-generation steel raw materials in SMEs' production



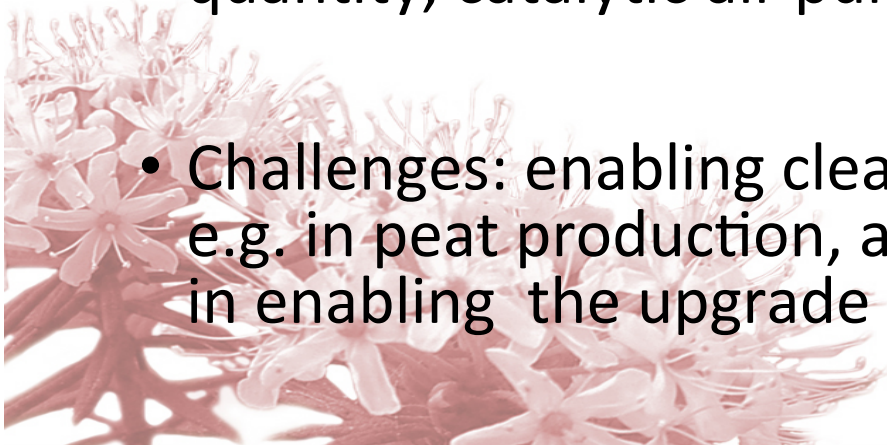
Refinement of timber raw material

- The region has strong know-how and long traditions in utilising timber raw material in the forest and timber product industry but also as bioenergy.
- Key assets: large pool of existing actors in the sector
- Challenges: to guarantee a high degree of refinement and added value for timber raw material and capitalizing on the unexploited potential in the area of bioeconomy.



Clean technologies, incl. energy

- Expertise related particularly to water and air purification. Solutions are applied in the food, brewery, timber refining, energy, steel and mining industries, in monitoring the condition of the environment and in water purification plants.
- Key assets: water purification processes, monitoring of water quality and quantity, catalytic air purification, bioenergy
- Challenges: enabling clean technologies to penetrate the regional markets e.g. in peat production, agriculture and forestry. Utilising ICT applications in enabling the upgrade of traditional industry sectors



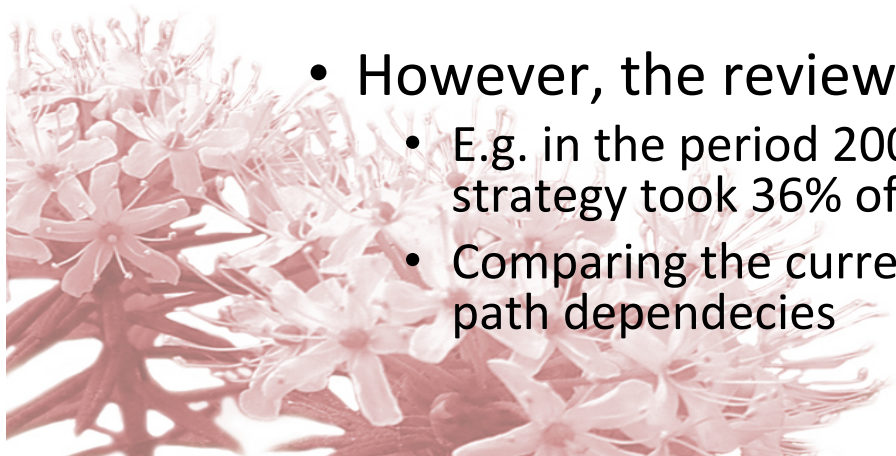
Healthcare and wellness technology

- The Oulu Region has a large amount of healthcare and wellness technology companies. Combined with ICT expertise this offers possibilities to build future wellness innovations.
- Key assets: ICT know-how e.g. in wireless data transfer, cloud and mobile technology and a large pool of existing healthcare and wellness technology companies with hopes to internationalise their operations
- Challenges: Taking advantage of the markets opened by the change where organisation-oriented development is becoming individual-centred. Capitalizing on digital service business in e.g. personal monitoring of one's own health by using for example mobile devices and applications.



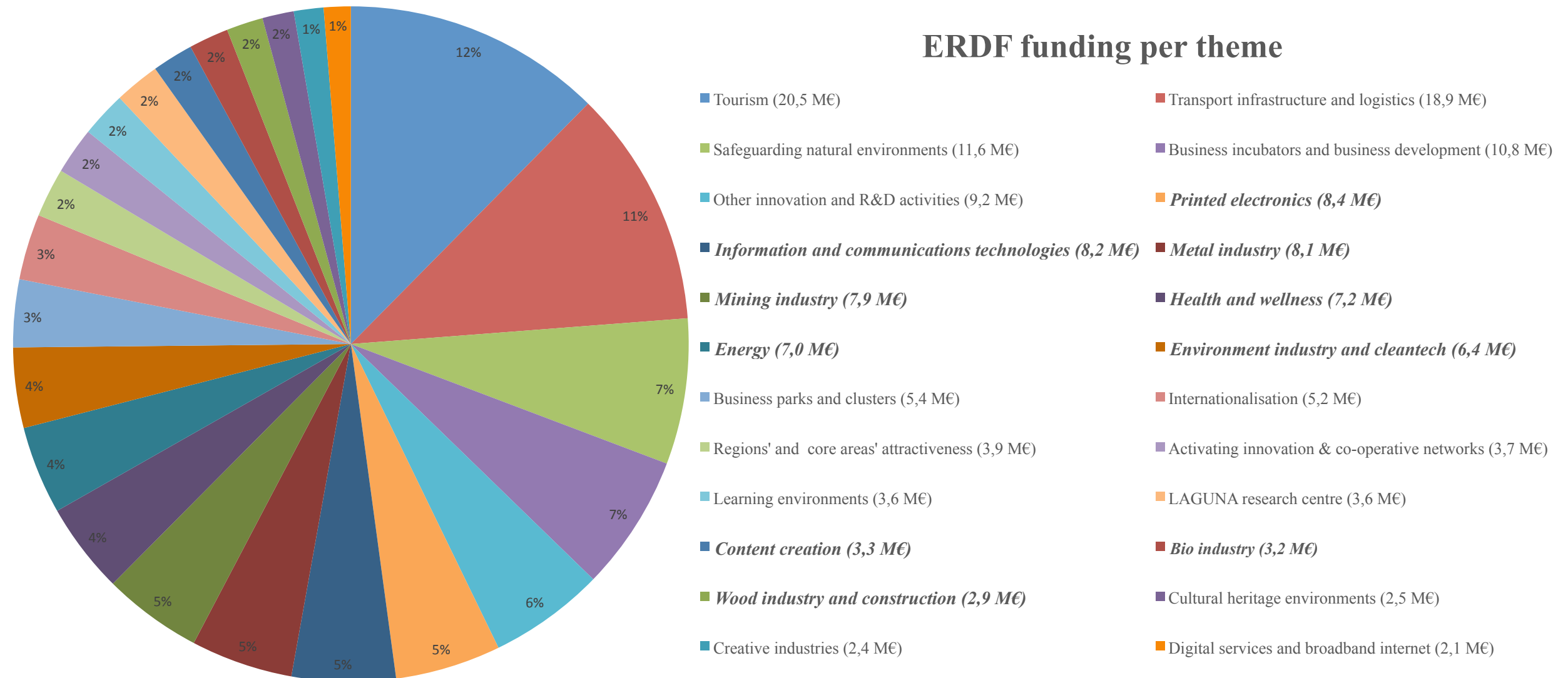
Towards the focus areas – study of Oulu region's ERDF projects 2007–2013

- In order to see how the past actions and regional development is visible in the chosen focus areas or has affected the choices Oulu region's ERDF projects of 2007–2013 were reviewed
 - As the data is from a period preceding the strategy, nothing can be said about the success of the current strategy
 - However, the review offers some interesting viewpoints to the focus areas
 - E.g. in the period 2007–2013 the themes later chosen in the smart specialisation strategy took 36% of the overall funding.
 - Comparing the current choices to past actions allows us to better recognize possible path dependencies



Towards the focus areas – study of Oulu region's ERDF projects 2007–2013

ERDF funding per theme



Some observations

ERDF funding per theme:

Tourism (20,5 M€)

Transport infrastructure and logistics (18,9 M€)

Safeguarding natural environments (11,6 M€)

Business incubators and business development (10,8 M€)

Other innovation and R&D activities (9,2 M€)

Printed electronics (8,4 M€)

Information and communications technologies (8,2 M€)

Metal industry (8,1 M€)

Mining industry (7,9 M€)

Health and wellness (7,2 M€)

Energy (7,0 M€)

Environment industry and cleantech (6,4 M€)

Business parks and clusters (5,4 M€)

Internationalisation (5,2 M€)

Regions' and core areas' attractiveness (3,9 M€)

Activating innovation & co-operative networks (3,7 M€)

Learning environments (3,6 M€)

LAGUNA research centre (3,6 M€)

Content creation (3,3 M€)

Bio industry (3,2 M€)

Wood industry and construction (2,9 M€)

Cultural heritage environments (2,5 M€)

Creative industries (2,4 M€)

Digital services and broadband internet (2,1 M€)

ICT

Basic
industry

Cleantech
& energy

- Most of the themes related to a specific industry or sector seem to be included in the Oulu region's strategy for smart specialisation
- The large share of printed electronics
 - Only theme on a specific/application level

Continued

- Most of the industry or sector related themes seem to be included in the Oulu region's strategy for smart specialisation
 - Is the strategy too broad? Have critical choices been made or does the strategy in fact offer something for everyone?
 - Has smart specialisation been used to critically review past actions, or does the strategy rather follow an old pattern?
- Smart specialization implies policy choices and breaking away from established lobbies and rent-seekers.
- Spreading resources thin over a large variety of priorities is one thing smart specialisation tries to avoid.

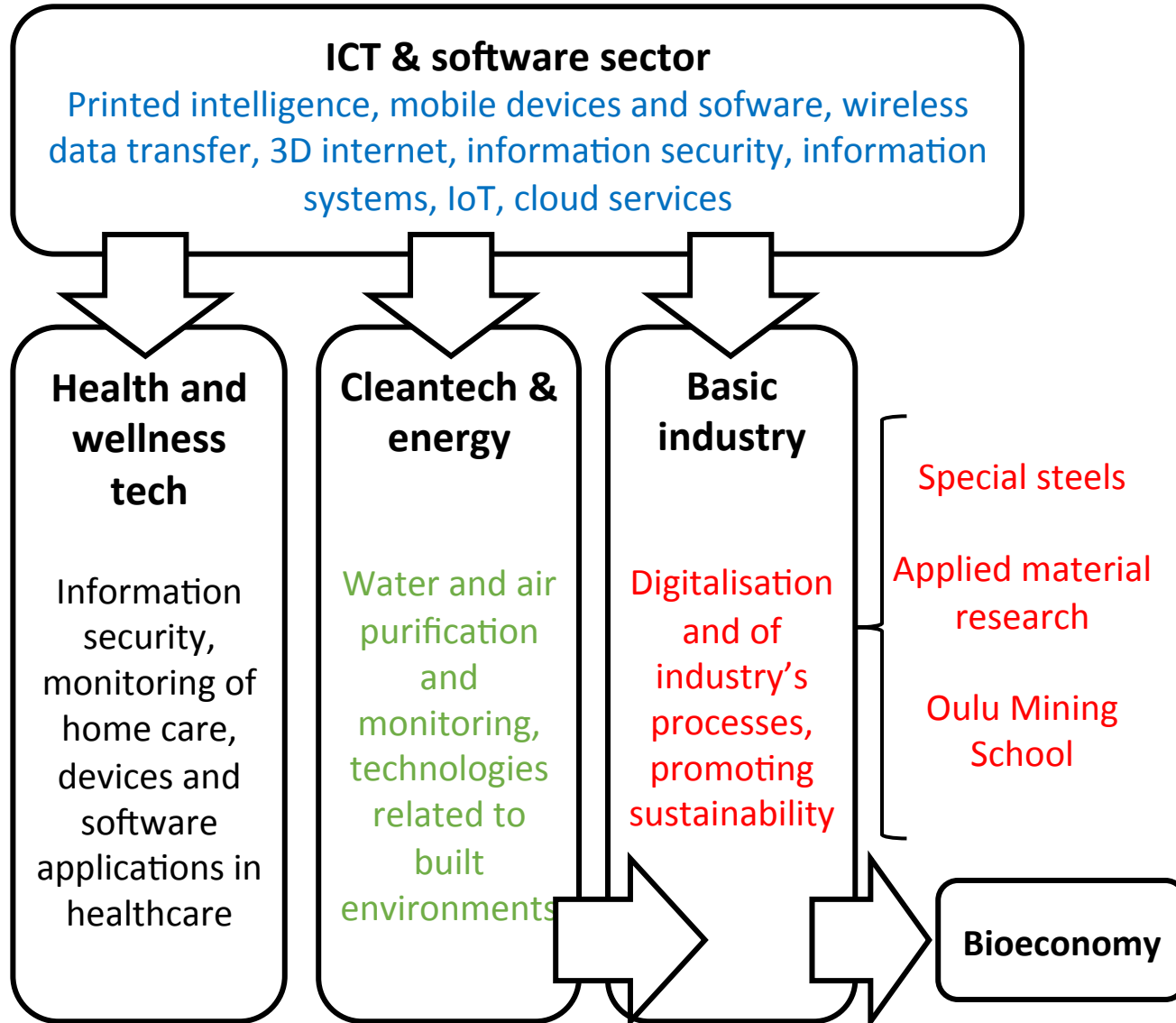
Related variety

- Unrelated variety protects a region against external asymmetric shocks in demand and thus against rising unemployment
 - By contrast, related variety in a sector is expected to be beneficial for knowledge spillovers, thus enhancing growth and employment
- Regions benefit most from sectoral diversity when the sectors are interlinked and complement each other.
 - A region specializing in a particular composition of complementary sectors will experience higher growth than a region specializing in sectors that do not complement each other.

(See e.g. Frenken et al. 2007)



Related variety in the strategy



- Some of the ICT key know-how and applications as mentioned in the strategy document are presented in the ICT & software – bubble.
- Each of the three remaining focus areas include the applications or areas of application where ICT is put in use.
- In addition, cleantech applications are being utilised in different basic industry's sectors.
- Industry includes some key assets that do not have direct links with the other focus areas, but that aim more at the sector's renewal/upgrading

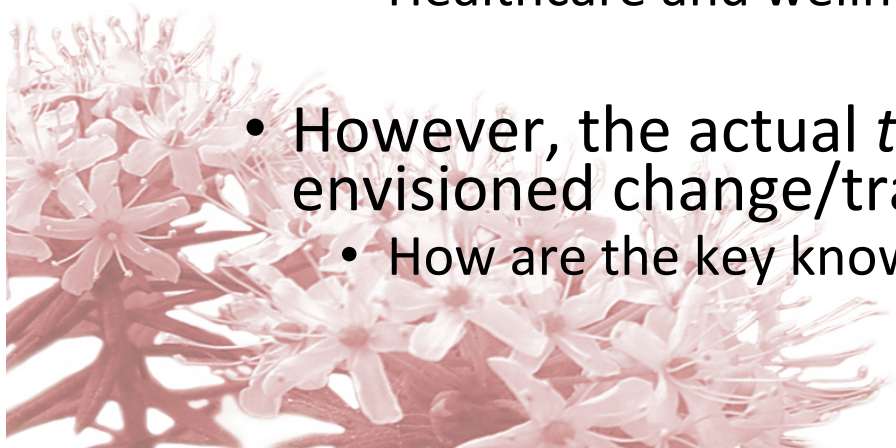
Related variety in the strategy

- The relatedness and cross-cutting features of ICT and cleantech in the strategy might be at least to some extent due to the nature of these fields: they are by definition technologies connected to and enhancing the performance of other domains
 - A good starting point to the strategy, but the way the key assets of these thematic areas are to be utilised in the strategy is still largely missing in the strategy
 - How could the relations between the focus areas be promoted better? Are there bottlenecks that prevent the desired development and need special attention?



RIS3 as a strategy for economic transformation

- Areas where the region hopes to excel should be chosen so that they offer a chance of economic transformation via transition, upgrading, diversification and new domains
 - ICT – *diversification* to other three focus areas
 - Basic industry – *upgrading*
 - excl. refinement of timber raw material – *transition*
 - Healthcare and wellness technology & cleantech and energy – *new domains* ?
- However, the actual *tools* that are going to be utilized in attaining the envisioned change/transformation are largely missing
 - How are the key knowledge assets utilised in the transformation process?



Conclusions

- It seems that the strategy includes an extensive list of the region's key know-how and assets related to the focus areas, but the actual *tools* that will be utilized in the process or *the actions taken* are largely missing.
- The analysis of the region's previous ERDF funding themes raises a question of have *critical choices* actually been made? Does the strategy include *a limited amount of priorities*?

